AR Solutions *In Action*

CDC's Investments to Combat Antibiotic Resistance Threats

MASSACHUSETTS

$2,845,106

Funding for AR Activities
Fiscal Year 2019

FUNDING TO STATE HEALTH DEPARTMENTS

$1,290,341

RAPID DETECTION & RESPONSE: State, territory, and local public health partners fight antibiotic resistance in healthcare, the community, and food. Programs use the AR Lab Network to rapidly detect threats and implement prevention, response, and antibiotic stewardship to stop the spread of resistant germs.

With 2018 funding, Massachusetts uncovered transmission of a carbapenemase-producing organism in a long-term care facility that had been undetected for several months. Control measures were rapidly implemented and point prevalence screening conducted, confirming that transmission had been halted. This outbreak was the first time the Massachusetts State Public Health Laboratory used whole-genome sequencing technology to confirm transmission within a healthcare facility.

$204,873

FOOD SAFETY projects protect communities by rapidly identifying drug-resistant foodborne bacteria to stop and solve outbreaks and improve prevention.

Massachusetts uses whole genome sequencing to track and monitor local outbreaks of *Listeria*, *Salmonella*, *Campylobacter*, and *E. coli* and uploads sequence data into PulseNet for nationwide monitoring of outbreaks and trends. In Fiscal Year 2020, Massachusetts will continue monitoring these isolates for resistance genes. When outbreaks are detected, local CDC-supported epidemiologists investigate the cases to stop spread.

FUNDING TO UNIVERSITIES & HEALTHCARE PARTNERS

$500,000

HARVARD PILGRIM HEALTH CARE: CDC Prevention Epicenter

CDC collaborates with medical academic investigators to conduct innovative infection control and prevention research in healthcare settings. One of the projects in Massachusetts will assess whether statistical software tools can identify HAI outbreaks earlier in order to reduce their size and duration. Another study is examining the relationship between opioid use and sepsis, the body's overwhelming and life-threatening response to infection.
Learn more: www.cdc.gov/hai/epicenters

$849,892

HARVARD UNIVERSITY: Innovative Prevention & Tracking

Researchers will provide valuable insights into the feasibility of widescale automated surveillance for non-ventilator hospital-acquired pneumonia (NV-HAP) using routine electronic health record data, deepening our understanding of treatment patterns and outcomes for NV-HAP, and allowing researchers to evaluate emerging NV-HAP prevention interventions.

This data represents CDC's largest funding categories for AR. It shows extramural funding that supports AR activities from multiple funding lines. **AR:** antibiotic resistance **HAI:** healthcare-associated infection

CDC provides critical support in the U.S. and abroad to protect people from antibiotic resistance.

www.cdc.gov/ARinvestments

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention